

Appl. No. 10/025,318
Amdt. dated April 28, 2004
Reply to Office Action of Jan. 30, 2004

Amendments to the Specification:

The third paragraph on page 3 has been amended as follows:

The invention is ~~direct~~ directed to an electronic ballast system for operating one or more fluorescent lamps with universal input (from 108V to 305V) and having a subsystem with a battery, along with a battery charger and associated logic, that provides for emergency lighting. The electronic ballast system allows for the operation of fluorescent lamps without preheating their cathodes, as well as a circuit for power factor correction that allows electronic circuit to have a power factor that approaches unity.

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Amendments to the Specification:

The last paragraph at page 9 to page 10, line 5, has been amended as follows:

The purpose of the power factor correction circuit 22 is to derive a power factor for the electronic ~~power~~ ballast system 10 that approaches unity. The power factor correction circuit 22 is preferred to be implemented into the electronic ballast system 10 because the electronic ballast system 10, as well as all known ballast circuits, uses inductors which tend to reduce the power factor as seen by the source of a.c. excitation supplying the electronic ballast system 10. This lowering of the power factor disadvantageously increases the consumption of power related to the fluorescent lamps and the magnetic ballast components. Typically this reduction in the power factor and related inductive disturbances creates a 40% increase in power consumption. The power factor correction circuit 22 of the present invention performs an active correction of the power factor typically bringing it almost to unity (.98%) and accomplishes this correction by forcing present its output signal paths 24 and 26 to follow the average primary current of the ac supplying the electronic ballast system 10. Further, the power factor correction circuit 22 maintains a dc voltage of approximately 450 volts that is stabilized regardless of the fluctuation of the a.c. that may vary from 108 to 305 volts.

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The first paragraph at page 19, line 3 to line 15, has been amended as follows:

In operation, if, as ~~we~~ it was mentioned before, lamp 52 is absent, and if the half-bridge driver U2A fails to find the correct resonant frequency related to the particular fluorescent lamp 52, causing an increase in the disturbance values of current and voltage delivered to the 100V line and that are present at capacitor C17, these disturbances will be passed on to diodes D8 and D9. The diodes D8 and D9 rectify the disturbances and deliver the rectified quantities to an electrolytic capacitor C16 and resistor R16 which, in turn, filter the rectified disturbances. The capacitor C16, in cooperation with zener diode D7, develops a voltage that renders the SCR Q4 conductive which, in turn, causes pin 3 of the half-bridge driver U2A to be brought to ground, by way of diode D6 and SCR Q4, which, in turn, causes the half-bridge driver U2A to be shutdown which, in turn, immediately extinguishes the oscillation of the inverter ballast circuit 28A, 28B, 28C, or 28D, thereby, eliminating any condition of danger that would damage the inductor 26 and the MOSFETS Q2 and Q3.